Action Research Workshop

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First, the diagnostic stage involves an analysis of the social situation. Hypotheses are formulated concerning the nature of the research domain.

Second, the therapeutic stage involves change experiments. In this stage changes are introduced and the effects are studied.

Action Research Characteristics

- Multivariate social setting
- Highly interpretive assumptions about observation
- Intervention by the researcher
- Participant observation
- The study of change in the social setting

Susman Framework

Client-system Infrastructure

The specification and agreement that constitutes the research environment. It provides:

- Authority or sanctions under which researchers and host practitioners may specify actions
- Legitimates those actions with the express expectation that eventually these will prove beneficial to the client or host organization
- Boundaries of the research domain
- Entry and exit of the scientists
- Latitude to disseminate the learning
- Define the responsibilities of the client and the researchers to each other

Key aspect of the infrastructure: Collaboration

Diagnosing

Identification of the primary problems that are the underlying causes of the organization's desire for change.

Involves holistic self-interpretation of the complex problem.

Develop theoretical assumptions (i.e., a working hypothesis) about the nature of the organization and its problem domain.
Guided by the theoretical framework, Indicate desired future state and changes that would achieve such a state, Establish the target for change and the approach to change.

**Action Planning**

Specifies organizational actions that should relieve or improve these primary problems.

- Directed forms of intervention strategy
- Non-directed forms of intervention strategy

**Diagnosing**

**Action**

**Taking**

**Planning**

**Evaluating**

**Specifying Learning**

**Client-System Infrastructure**

7

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The research "directs" the change.

Traditional for ISD research.

Just "do it" or social psychology tactics:

- Engagement
- Unfreezing
- Learning

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The change is sought indirectly, precipitate intervention tactics, e.g., recruiting intelligent laypersons as change catalysts and pacemakers.

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May be an ongoing process.

Knowledge gained directed to three audiences:

- The restructuring of organizational norms
- Foundations for further intervention
- The scientific community

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Were the theoretical effects of the action realized?

Did these effects relieve the problems?

If unsuccessful, some framework for the next iteration of the action research cycle (including the adjustment of the hypotheses) should be established.

11

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Participatory Action Research

- Closely collaborative, synergistic roles for the researcher and subject
- Theorizing is shared with client participants as co-researchers
- Distinctive sets of theoretical knowledge
  - Action researchers: Knowledge of action research and general IS theories
  - Client participants: Situated, practical theory
- Setting self-reorganizes, not researcher-determined

Task 1

Form teams and use participatory action research to formulate an action plan for the first action research cycle.

Case Infrastructure

- Experienced team leader with a strong practical background in logistics and information systems
- Analyst with a strong background in the procurement system
- Scientist commissioned as an action researcher
- Later
  - a programmer
  - a second analyst
- All participants were from the consortium
**Intervention Diagnosis**

- Early projects were defeated by the large set of data classes, the large volume of data, and the high degree of volatility in the organizational environment.
- Need for highly flexible applications.
- Information Engineering theory prescribes great stability in the data model.

**Practical IE Problems**

- No trained, experienced database designers
- Esoteric nature of database design
- No substantial commitment by management.
- Large interval of initial database analysis
- Neither expected
- Management wanted quick, measurable, and highly visible results
- Inability of previous database specialists to communicate with the users led to user alienation
- Economics and temporary nature of the project prevented assimilation into the team.

**Further Diagnosis**

- Lack of interactive user validation of database designs
- Prototyping Theory
  - Lead to immediate artifacts
  - Gratify management’s need for prompt, visible results
  - Building the study team’s database design experience
  - Constantly and interactively validate specifications under the acute realities of user reviews
  - Improve user-designer communications
  - Lead to shared understanding
  - Increased user participation in the design process
  - Heighten the initial acceptance and effectiveness of a new system.

**Action Planning**

Prototyping (normally a vehicle for application development) was solely applied for database design.

**Action Taking**

- An initial rapid prototyping cycle of the database design
- A formal interview process
- Pre-specification standards for prototype components
- Video screen prototypes
- Printed report prototypes
- Parallel application prototyping cycle

**Outcome**

- Government management and users were positively impressed, intrigued, and motivated to pursue the proposed development approach
- Herculean design and programming efforts
- Deadline effect
- Specification a moving target
- Programmers were threatening to quit
- Process-oriented features infected database specification
The “truth value” of a concept is defined by its practical usefulness. The success of the concept as an aid to achieving a desired outcome (or avoiding an undesired outcome) is the sole determinant of its human value. Therefore in action research, theory is validated in action.

Philosophy of Pragmatism

Task 2

The teams should use participatory action research to formulate an action plan for the second action research cycle.

Specifying First Cycle Learning

- Prototypes “success”
  - Revealed the design feasibility
  - User enthusiasm, their control over system design elements
  - Rapid progress pleased management
- Prototypes “unsuccessful”
  - The deadline effect of large specification hurt badly
  - Users ignored the report programs in favor of the interactive screens
  - Process of entering real data into prototype database was most significant
  - Users unveiled their semantic disagreements with the designers
  - Parallel application prototype added complexity and created confusion among users

Adjusting Theory

- Semantic Database Theory
- Programming rules replaced functional specifications
  - Defined how the relationships and constraints illustrated in a data model should appear in data manipulation screens
  - Only the entity-relationship diagram as the prototype specification and medium of analyst-programmer communication
  - Eliminated algorithms
  - Relieve the deadline effect
- Drop the complicated report programs in favor of a few simple listings
- Eliminated group interviews
- Eliminated parallel application prototype development

Theory Emergence

- Initial focus was on software engineering and socio-technical participation
- Developed toward user-designer semantics

Key Process Sets in Participatory Action Research

- Processes that assure that theory that has been informed by action
- Processes that assure adequate client participation in determining action
- Processes that assure appropriate researcher involvement
- Processes that achieve an adequate understanding of the goals of the action

It should be possible for evaluators to reconstruct these processes in order to determine the quality of an action research project.
Clinical Perspective in Field Work

- Very highly trained professionals involved in a helping role with individuals, groups, communities or organizations
- Involvement of the researcher is more facilitative than collaborative
- Study subjects typically initiate and drive clinical enquiry, seeking help with an immediate problem
- Client expects to pay fees

Action-change Study Model

- More conceptually normative (improve the problem situation)
- Narrowly focused on certain detailed data regarding a particular problem
- Validated by an improvement in the problem situation as a result of the actions
- Primarily motivated by organizational development
- Scientific knowledge is a by-product

Clinical vs. Action Research

- A clinical method of inquiry is highly situational
- No concrete set of steps or stages
- Ideal process model is linear rather than iterative
- Not consume resources for scientific goals
- Considerable advance study of theory and principles related to the clinical setting on the part of the researcher
- Focus on the ethical and legal responsibility to avoid malpractice

Further Reading

Presenter's Studies